

IFW ✓



PATENT
ATTORNEY'S DOCKET NO.: BKP-100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Djemel Ziou et al.
Serial No.: 10/524,323
Filed: February 9, 2005
For: IMAGE MODEL BASED ON N-PIXELS AND
DEFINED IN ALGEBRAIC TOPOLOGY, AND
APPLICATIONS THEREOF
Examiner: Not Assigned
Art Unit: 2621

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with 1st first-class postage attached, addressed to Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450 on September 8, 2006.


Mark D. Lorusso

Commissioner for Patents
PO BOX 1450
Alexandria, VA 22313-1450

**STATEMENT FILED PURSUANT TO THE DUTY OF
DISCLOSURE UNDER 37 C.F.R. §§1.56, 1.97 AND 1.98**

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the applicants request consideration of this information disclosure statement.

Compliance with 37 C.F.R. §1.97

This information disclosure statement has been filed before the mailing of a first office action on the merits. No fee or certification is required.

Information Cited

The applicants hereby make of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the relative importance of the references.

Remarks

Pursuant to 37 C.F.R. § 1.98(a)(2)(i), copies of non-U.S. patent references are enclosed unless otherwise indicated on the attached form PTO-1449 (modified). The references were cited in an International Search Report and Written Opinion of PCT/CA2003/001214 as well as in the application. Copies of the International Search Report, two Written Opinions and a response to the first Written Opinion are also enclosed. It is respectfully requested that:

- The examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
- The enclosed form PTO-1449 be signed by the examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
- The citations for the information be printed on any patent which issues from this application.

By submitting this information disclosure statement, the applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

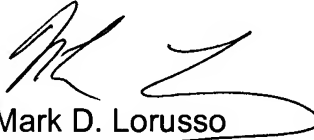
By submitting this information disclosure statement, the applicants make no representation that the information cited in the statement is, or is considered to be,

material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this information disclosure statement, the applicants make no representation that the information cited in the statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

It is understood by applicants that the foregoing information will be considered and, to the extent deemed appropriate by the examiner, will be reflected in the examiner's communication.

Respectfully submitted,

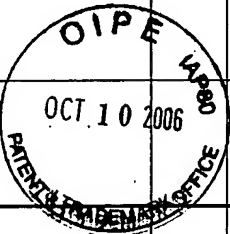
A handwritten signature in black ink, appearing to read 'Mark D. Lorusso', with a large, stylized flourish extending from the end of the signature.

Mark D. Lorusso
Reg. No. 41,955
Lorusso & Associates
3 Pinecrest Terrace
Portsmouth, NH 03801
Tel: (603) 427-0070
Attorneys for Applicants

Docket No.: BKP-100

Date: September 8, 2006

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) BKP-100	Application Number 10/524,323
*EXAMINER INITIAL		Applicant(s) Djemel Ziou et al.	
OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		Filing Date February 9, 2005	Group Art Unit 2621

		M.-F. Auclair-Fortier et al.; Physics Based Resoluion of Smoothing and Optical Flow: A computational Algebraic Topology Approach; Technical Report 269; 2001
		P. Poulin et al.; A Physics-Based model for Active contours: A computational Algebraic Topology Approach; Symposium on geospatial theory processing and applications, Ottawa, CA; 2002
		P. Poulin et al.; A Physics Based Model for the Deformation of curves: A Computational Algebraic Topology Approach.; Technical Report 270; 2001
		D. Ziou et al.; An Image Model with Roots in Computational Algebraic Topology: A Primer; Technical Report 264; 2001
		P. Poulin; Modeles physiques pour la resolution de problemes en vision artificielle: Une approche basee sur la topologie algebrigue calculatoire; 2002
		M. Allili et al.; Cubical homology and the topological classification of 2D and 3D Imagery; Int. Conf. Image Processing; 2001
		M. Allili et al.; Extraction of topological properties of image via cubical homology; Technical Report; 2000
		M. Allili et al.; Topological Feature extraction in binary images; IEEE ISSPA; 2001
		L. Alvarez et al.; Recursivity and PDE's in image processing; In proceedings 15th International Conference on Pattern Recognition; 2000
		M.-F. Auclair-Fortier et. al.; Automated Correction and Updating of Road Databases from A High-Resolution Imagery; Canadian Journal of Remote Sensing; 2001
		M.-F. Auclair-Fortier et al.; Computational Algebraic Topology for resolution of the poisson equation: application to computer vision; Technical Report; 2001
		J. L. Barron et. al.; Systems and experiment performance of Optical Flow Techniques; International Journal of Computer Vision; 1994

EXAMINER	DATE CONSIDERED
----------	-----------------

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) BKP-100	Application Number 10/524,323
		Applicant(s) Djemel Ziou et al.	
		Filing Date February 9, 2005	Group Art Unit 2621
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		
	K. J. Bates; Finite element procedures; Prentice Hall; 1996		
	S. S. Beauchemin et al.; The Comprtation of Optical Flow; ACM Computing Survey; 1995		
	B. K. P. Horn et al.; Determining Optical Flow; Artificial Intelligence; 1981		
	A. P. Boresi et al.; Advanced Mechanics of Materials; Fifth Edition John Willey and Sons; 1993		
	A. P. Boresi; Elasticity in Engineering Mechanics; Prentice Hall; 1965		
	M. Bro-Nielsen; Surgery simulation using fast finite elements.; In Proc. Visualization in Biomedical Computation; 1996		
	E. F. Byars et al.; Mechanics of Deformable Bodies; Intext Educational Publishers; 1975		
	A. J. Chapman; Fundamentals of Heat Transfer; Macmillan Publishing Company; 1987		
	A. K. Chhabra et al.; On Poison Solvers and Semi-Direct Methods for Computing Area Based Optical Flow; IEEE Transactions on Pattern Analysis and Machine Intelligence; 1993		
	H. Chidiac et al.; Formation d'images optiques; Technical Report 226; 1998		
	L. D. Cohen; On active contour models and ballons; Computer Vision, Graphics and Images Processing; 1991		
	L. D. Cohen et al.; Finite Element Method and for Active Contour Models and Ballons for 2D and 3D Images; IEEE Transactions on Pattern Analysis and Machine Intelligence; 1993		
EXAMINER		DATE CONSIDERED	
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) BKP-100	Application Number 10/524,323
		Applicant(s) Djemel Ziou et al.	
		Filing Date February 9, 2005	Group Art Unit 2621
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		
	S. Cotin et al.; A Hybrid Elastic Model Allowing Real-time Cutting Deformations and Force-Feedback for Surgery Training and Simulation; In. Proc. of CAS99; 1999		
	R. Deriche et al.; Les EDP en traitement des images et vision par ordinateur; Technical Report 2697; 1995		
	F. Deschenes et al.; Detection of Lines, Line Junctions and Line Terminations; Technical Report 259; 2000		
	C H. Edwards et al.; Calculus with Analytic Geometry; Prentice Hall; 1998		
	R. Egli et al.; A framework for system specification using chains on cell complexes; Computer aided design; 2000		
	K. M. Entwistle Basic Principles of the Finite Element Method; IOM Communications Ltd		
	H. U. Fuchs; The Dynamics of Heat.; Springer-Verlag; 1996		
	S. F. F. Gibson et al.; A survey of Deformable Modeling in Computer Graphics; Technical Report, Mitsubishi Electric Research Laboratory; 1997		
	D. Halliday et al.; Fundamentals of Physics; John Willey and Sons; 1997		
	R. C. Juvinall; Engineering considerations of Stress, Strain and Strength; McGraw-Hill; 1967		
	J. Kervorkian; Partial Differential Equations : Analytical Solutions Techniques; Mathematical Series. Chapman and Hall; 1990		
	V. A. Kovalvesky; Finite topology to Image Analysis; Comp. vision, and image processing; 1989		
EXAMINER		DATE CONSIDERED	
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) BKP-100	Application Number 10/524,323
		Applicant(s) Djemel Ziou et al.	
		Filing Date February 9, 2005	Group Art Unit 2621
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		
	S. H. Lai et al.; An O (n) Iterative Solution to the Poisson Equation in Low-Level Vision Problems.; Technical Report TR93-035; 1993		
	J. Li et al.; A Spectral Method for Solving Elliptic Equations for Surface Reconstruction and 3D Active Contours; Proceedings of IEEE International Conference on Image Processing; 2001		
	G. T. Mase et al.; Continuum Mechanics for Engineers; CRC Press; 1999		
	W. S. Massey; A basic course in algebraic topology; Springer-Verlag; 1991		
	C. Mattiussi; An Analysis of Finite Volume, Finite Element, and Finite Difference Methods Using some Concepts from Algebraic Topology; Journal of Computational Physics; 1997		
	J. Montagnat et al.; Representation, shape, topology and evolution of deformable surfaces. Application to 3 D medical imaging segmentation; Technical Report 3954; 2000		
	J. Volumetric Medical Images Segmentation using Shape Constrained Deformable Models; Lecture Notes in Computer Science; 1997		
	J. Monteil et al. A New Interpretation and Improvement of the Nonlinear Anisotropic Diffusion for Image Enhancement; IEEE transactions on Pattern Analysis and Machine Intelligence; 1999		
	K. W. Morton et al. Numerical Solution of Partial Differential Equations; Cambridge University Press; 1994		
	B. V. Muvdi et al. Engineering Mechanics of Materials; Macmillan Publishing Co.; 1980		
	N. O. Myklestad; Statics of deformable bodies; Macmillan Company; 1966		
	R. S. Palmer et al.; Chain Models of Physical Behavior for Engineering Analysis and Design; Technical report TR93-1375; 1993		
EXAMINER		DATE CONSIDERED	
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) BKP-100	Application Number 10/524,323
		Applicant(s) Djemel Ziou et al.	
		Filing Date February 9, 2005	Group Art Unit 2621
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		
	S. V. Patankar; Numerical Heat Transfer and Fluid Flow; Computational Methods in Mechanics and Thermal Science; 1980		
	P. Perona et al.; Scale-Space and Edge Detection Using Anisotropic Diffusion; IEEE Transaction on Pattern Analysis and Machine Intelligence; 1990		
	N. Peterfreund; Robust tracking of Position and Velocity with Kalman Snakes; IEEE Transactions on Pattern Analysis and Machine Intelligence; 1999		
	W. D. Pilkey et al. Mechanics of structures : variational and computational methods; CRC Press; 1994		
	W. Press et al.; Numerical Recipes in C. Cambridge University Press; 1992		
	T. Symchony et al.; Direct Analytical Methods for Solving Poisson Equations in Computer Vision Problems; IEEE Transactions on Pattern Analysis and Machine Intelligence; 1990		
	D. Terzopoulos; Image Analysis Using Multigrid Relaxation Methods; IEEE Transactions on Pattern Analysis and Machine Intelligence; 1986		
	G. B. Thomas et al.; Calculus and Analytic Geometry; Addison-Wesley Publishing Company; 1988		
	E. Tonti; On the Formal Structure of Physical Theories; Technical Report; 1975		
	J. Weickert; A review of Nonlinear Diffusion Filtering; Lecture Notes in Computer Science; 1997		
	E. Weickert; Partial Differential Equations of Applied Mathematics; Pure and Applied Mathematic; 1983		
	E-mail from Mr. Costas Armenakis to the Examiner dated 12-10-2004		
EXAMINER		DATE CONSIDERED	
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

INFORMATION DISCLOSURE CITATION <i>(Use several sheets if necessary)</i>		Docket Number (Optional) BKP	Application Number 10/524,323
		Applicant(s) Djemel Ziou et al.	
		Filing Date February 9, 2005	Group Art Unit 2621
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		
	Copy of webpage: http://dmi.usherb.ca/~moivre/en_membres.html		
	E-mail from the Examiner to Mr. Jacques Dubois dated January 7, 2005		
	Copy of Webpage: http://dmi.usherb.ca/~moivre/rap_rapports.html		
	Copy of Webpage: http://www-l2ti.univ-paris13.fr/~auclair/publi_res.html		
	Copy of Webpage: http://dmi.usherb.ca/~auclair/Univ/Publi/		
	Copy of the linked webpages: http://www.ucam.ac.ma/fssm/ciro/presentation.hm http://www.ucam.ac.ma/fssm/ciro/progeammemercredi.htm		
	Copy of webpage: http://www.ucam.ac.ma/fssm/ciro/resumer.htm		
	Copy of the (linked) webpages: http://www-galilee.univ-paris13.fr/recherche/recherche.php http://www-galilee.univ-paris13.fr/recherche/journees.php http://www-galilee.univ-paris13.fr/recherche/journee9/journee9.php http://www-galilee.univ-paris13.fr/recherche/journee9/journee9L2T1.php		
	E-mail from Ms. Florence Roux to Mr. Djemel Ziou dated March 19, 2004		
	E-mail from Ms. Florence Roux to the Examiner		
EXAMINER		DATE CONSIDERED	
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			